

CLAIMS

What is claimed is:

1. A method for providing a development interface for the development of a multi-user
5 application executable on a distributed network system, comprising the steps of:

providing a object definition structure for an object utilized by the application, the
object definition structure comprising a plurality of functional characteristics defining the
object, and a update schedule for one or more of the functional characteristics;

10 automatically updating the functional characteristics in accordance with the update
schedule during execution of the application on the distributed network;

2. The method of claim 1 wherein the object definition structure further comprises an
error limited broadcast schedule for one or more of the functional characteristics, and further
comprising the step of automatically updating a functional characteristics only when a
15 change in the value of a functional characteristic exceeds a respective error limit.

3. The method of claim 2 wherein the functional characteristics of the object are
updated by transmitting the functional characteristics periodically based on the update
schedule or in accordance with the error limited broadcast schedule to other objects utilized
20 by the application.

4. The method of claim 3 further comprising the step of providing one or more filter functions for limiting propagation of the updated functional characteristics of the object to one or more of the other clients within the network.

5. The method of claim 1 wherein the object definition structure for the object is determined by a user of the application, and wherein the object definition structure is utilized by a plurality of processes implemented by the application.

6. The method of claim 5 wherein the distributed network comprises a plurality of servers interconnected by a network backbone, each server hosting at least one local client, and each local client having at least one local participant.

7. The method of claim 6 wherein the application comprises an interactive video game, and wherein the plurality of functional characteristics includes at least one of: network updates, graphical rendering updates, and physics based behavioral updates.

8. The method of claim 7 wherein the object comprises an interactive video game character, and the functional characteristics comprise at least one of: a position of the character, a size of the character, and an orientation of the character.

9. The method of claim 3 wherein the object is embodied within a data stream of audio/video data transmitted over the network.

10. The method of claim 6 wherein the application comprises an interactive communication program for the transmission of communication content among users of the network, and wherein the plurality of functional characteristics includes at least one of: communication updates, user privilege updates, and network interface updates.

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11. The method of claim 10 wherein the object comprises one or more of: a streaming audio data set, a streaming video data set, and a text-based data set.

12. A system for developing a multi-user application executable by a plurality of client computers coupled in a communication network, comprising:

a first client providing a object definition for an object utilized by the application, the object definition structure comprising a plurality of functional characteristics defining the object, and a update schedule for one or more of the functional characteristics;

a second client coupled to the first client and configured to manage data transmission between the first client and other clients coupled to the communication network and to filter object updates transmitted to the other clients, wherein the object updates of the functional characteristics of the object are automatically transmitted during execution of the application by the first client in accordance with the update schedule on the distributed network.

13. The system of claim 12 wherein the object definition structure further comprises an error limited broadcast schedule for one or more of the functional characteristics, and wherein the functional characteristics are only updated when a change in value of a functional characteristic exceeds a respective error limit.

14. The system of claim 13 wherein the functional characteristics of the object are updated by transmitting the functional characteristics periodically based on the update schedule or in accordance with the error limited broadcast schedule to other objects utilized
5 by the application.

15. The system of claim 12 wherein the communication network comprises a plurality of servers interconnected by a network backbone, each server hosting at least one local client, and each local client having at least one local participant.

10 16. The system of claim 15 wherein one server of the plurality of servers controls transmission of data among the first client, second client and the other clients utilizing the object created by the first client.

15 17. The system of claim 16 wherein at least one of the other clients may update the object created by the first object.

18. The system of claim 12 wherein the object definition created by the first client is used by all functions and processes within the multi-user application that utilize the object.